

Appl. No. 09/785,999
Amdt. dated September 26, 2003
Reply to Office Action of July 15, 2003

REMARKS/ARGUMENT

Claims 1-16, 26 and 32 are pending after entry of the present Amendment. Claims 1 and 10 have been amended. New claim 32 is submitted for examination. Applicants kindly direct Examiner to pending claims 1-16, and 26, and to Applicants' specification as filed at page 9, line 16 - page 13, line 19, and Figure 2 for support of new claim 32. No new matter is introduced.

Rejections under 35 USC §102

Claims 1-4, 10, 11, and 14-16 were rejected under 35 U.S.C. §102(e) as being anticipated by Aoi (U.S. Patent No. 5,619,696). This rejection is respectfully traversed, and Applicants request reconsideration in light of claim amendments.

Applicants herein amend independent claims 1 and 8 to positively recite that the thickness of the via dielectric layer (claim 1) and the silicon dioxide layer (claim 10) is between about 0.4 microns and 0.5 microns. Applicants have further amended independent claims 1 and 10 to positively recite that the trench dielectric layer (claim 1) and the carbon doped oxide layer (claim 10) has a thickness of between about 0.5 microns and 0.6 microns. Examiner is directed to Applicants' specification as filed at page 10, lines 17-18, and page 11, lines 4-5, for support of the amendments.

As identified by Examiner, the patent to Aoi defines a first and a second dielectric layer having similar properties to the presently claimed invention. One significant characteristic that the reference does not teach is the claimed via dielectric thickness of between 0.4 and 0.5 microns and trench dielectric thickness of between 0.5 and 0.6 microns. The resulting material properties, for example the resulting dielectric constant of the structure, define materially different structures. Therefore, the structure as taught by Aoi has a silicon dioxide film formed to 1 micron in thickness and an organic film formed to 0.4 microns (col. 19, lines 5-7). The structure taught by Aoi is therefore materially different than the presently claimed structure in both the thickness of the individual layers or films and in the ratio of thickness between the via and trench dielectric layers. The presently claimed structure then operates in a materially distinct manner than the structure as taught by Aoi.

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In order for a reference to anticipate a claim, each and every element as set forth in the claim must be found in the reference, either expressly or inherently described. MPEP 2131. Applicants respectfully submit that Aoi does not anticipate Applicants' independent claims 1 or 10 as amended herein. Nor does Aoi anticipate Applicants' new independent claim 32. For at least the reasons set forth above, the patent to Aoi teaches a materially different structure than that presently claimed by Applicants. Further, because Aoi not only do not teach the thickness and ratio of thickness between the via dielectric layer and the trench dielectric layer, each and every element as set forth in Applicants' independent claims 1, 10, or 36 is not found in the reference. Likewise, Applicants' dependent claims 2-4, 11, and 14-16, each of which depend from one of independent claims 1 and 10 is similarly not anticipated by the patent to Aoi. Applicants therefore respectfully request that these §102 rejections be withdrawn.

Rejections under 35 USC §103

Claims 5, 7-9, and 12 were rejected under 35 USC §103(a) as being unpatentable over Aoi in view of the basic text of *Wolf et al.*, Silicon Processing for the VLSI Era, Vol. 2 - Process Integration, Lattice Press; Sunset Beach, CA, 1990, p. 194. Applicants respectfully traverse this rejection, and request reconsideration in light of claim amendments and the following argument.

For at least the reasons recited above, Applicants' submit that the Aoi reference fails to teach all of the limitations of Applicants' independent claims 1 and 10. *Wolf et al.* appears to be combined with the patent to Aoi to capture the features in dependent claims 5, 7-9, and 12 that are not taught or suggested by the patent to Aoi. As described above, Applicants' independent claims 1 and 10, as amended herein, claim a different and distinct structure from that taught by Aoi. Even if the basic text of *Wolf et al.* were to teach the additional features recited in dependent claims 5, 7-9, and 12, the combination still fails to teach or suggest all the features recited in independent claims 1 and 10, as amended herein. Similarly, the combination of Aoi and the basic text of *Wolf et al.* fail to teach or suggest all the features of dependent claims 5, 7-9, and 12, each of which depend, directly or indirectly, from one of independent claims 1 and 10. Applicants therefore respectfully request that these §103 rejections be withdrawn.

Appl. No. 09/785,999
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Claims 6 and 13 were rejected under 35 USC §103(a) as being unpatentable over Aoi in view of Lee et al., (U.S. Patent No. 6,043,167). Applicants respectfully traverse this rejection, and request reconsideration in light of claim amendments and the following argument.

For the same reasons cited above with respect to the rejection of claims 5, 7-9, and 12, Applicants submit that the combination of Aoi and Lee et al. fail to teach or suggest all the claim limitations of Applicants' independent claims 1 and 10. Therefore, the asserted combination likewise fails to teach or suggest all the claim limitations of dependent claims 6 and 13, which depend directly or indirectly from one of independent claims 1 and 10. Applicants therefore respectfully request that these §103 rejections be withdrawn.

Claim 26 was rejected under 35 USC §103(a) as being unpatentable over Aoi in view of Chen et al., (U.S. Patent No. 5,989,623). Applicants respectfully traverse this rejection, and request reconsideration in light of claim amendments and the following argument.


For the same reasons cited above with respect to the rejection of claims 5, 7-9, and 12, Applicants submit that the combination of Aoi and Chen et al. fail to teach or suggest all the claim limitations of Applicants' independent claim 10. Therefore, the asserted combination likewise fails to teach or suggest all the claim limitations of dependent claim 26, which depends directly from independent claim 10. Applicants therefore respectfully request that this §103 rejection be withdrawn.

Applicants further submit that new independent claim 32 is herein submitted for examination as a specific recitation of all of the method operations for fabricating the structure illustrated and described in Applicants' specification as filed in reference to Figure 2 therein. Applicants submit that support for claim 32 is found in essentially all of the currently pending, and originally filed claims, as well as the specification as filed in the sections cited above. Applicant respectfully submits that the patent to Aoi does not anticipate Applicants' independent claim 32 for at least the reasons cited above in reference to the §102 rejections of claims 1-4, 10, 110, and 14-16. Applicants further submit that new claim 32 is not rendered obvious by the combination of Aoi with the references of record as combined and asserted above. Applicants therefore respectfully request examination of new claim 32, and further submit that the claim is in a condition for allowance.

Appl. No. 09/785,999
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In view of the foregoing, Applicants respectfully request reconsideration of claims 1-16, and 26, and examination of new claim 32. Applicants submit that all claims are in condition for allowance. Accordingly, a notice of allowance is respectfully requested. If Examiner has any questions concerning the present Amendment, the Examiner is kindly requested to contact the undersigned at (408) 749-6900, ext. 6905. If any additional fees are due in connection with filing this amendment, the Commissioner is also authorized to charge Deposit Account No. 50-0805 (Order No. LAM1P106A). A copy of the transmittal is transmitted herewith for this purpose.

Respectfully submitted,
MARTINE & PENILLA, L.L.P.


Rick von Wohld, Esq.
Reg. No. 48,018

MARTINE & PENILLA, LLP
710 Lakeway Drive, Suite 170
Sunnyvale, California 94085
Customer Number 25920